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INTRODUCTION.

This REVIEW treats generally the meteorological conditions of the United States and Canada for August, 1887, and is based upon reports of regular and voluntary observers of both countries. Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i, on which also appears the distribution of icebergs and field ice reported, and the limits of fog-belts to the westward of the fortieth meridian. In tracing the centres of the paths of these storms, data from the reports of two hundred and nineteen vessels have been used. The severe disturbances which attended the passage of ocean depressions numbers 5 and 8 constituted a noteworthy feature of the month. The aggregate quantity of ice encountered on the southeast edge of the Banks of Newfoundland exceeded the average amount reported for corresponding months of previous years. Fog was less frequently encountered in the trans-Atlantic routes west of the fortieth meridian than during the preceding month.

The average number of areas of low pressure for August during the last fourteen years is ten; on chart i for the present month are traced the paths of eight such areas.

The mean temperature of August over the entire country differs but slightly from the normal; in the southern districts the month was somewhat warmer than the average August, while in northern sections it was slightly cooler.

The rainfall was very heavy in portions of the south Atlantic states, but there was a general deficiency in all other districts east of the Mississippi. From the upper Missouri val-

ley westward to Washington Territory the rainfall was above the average, and below the average over the southwestern part of the country.

With this issue of the REVIEW the numbers of the charts showing precipitation and departures from normal pressure and temperature will be reversed. In future the chart showing departures from normal pressure and temperature will be designated as number iii, and the precipitation chart will be numbered iv.

In the preparation of this REVIEW the following data, received up to September 20, 1887, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and twenty-one Canadian stations, as telegraphed to this office; one hundred and seventy-three monthly journals and one hundred and sixty-five monthly means from the former and twenty-one monthly means from the latter; two hundred and seventy-three monthly registers from voluntary observers; fifty-nine monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" monthly weather reports from the local weather services of Arkansas, Colorado, Dakota, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Mississippi, Nebraska, New England, New Jersey, New York, North Carolina, Ohio, Oregon, South Carolina, and Tennessee; and the Central Pacific Railway Company; trustworthy newspaper extracts, and special reports.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean pressure for August, 1887, determined from the tri-daily telegraphic observations of the Signal Service, is shown by isobarometric lines on chart ii. Two areas of maximum pressure, indicated by the isobar of 30.0, are shown on the chart for August; one of these areas covers the Lake region, and the other the western portion of Washington Territory. The barometric means are least over California and the southern plateau, the area of minimum pressure, indicated by the isobar of 29.75, including portions of California, Nevada, and Arizona. The regions of maximum and minimum pressure cover comparatively small areas; the pressure over nearly the whole country being evenly distributed, the means generally ranging from 29.9 to 29.95.

As compared with the mean pressure for the preceding month, an increase is shown over the northern part of the country from the Missouri Valley eastward to the New England and middle Atlantic coasts, generally ranging from .01 to .05, except over the Lake region, where it amounts to from .06 to .09. In all other portions of the country the mean pressure for August is below that for July. Along the Gulf coast, and in the Rocky Mountain region, the decrease ranges from .05 to .09, and on the Pacific coast from .09 to .11.

The departures from the normal pressure for the various stations are given in the tables of miscellaneous meteorological data; they are also graphically exhibited on chart iii (formerly chart iv) by lines connecting stations of normal or equal ab-

normal values. The mean pressure for August is below the normal throughout the United States, with the exception of the region extending along the northern border from Dakota to Lake Huron, where the mean pressure is from .01 to .05 in excess of the normal. While the mean pressure over much of the country is below the normal the deficiencies are not marked; they nowhere exceed .07, and over a large part of the country are less than .05.

BAROMETRIC RANGES.

The monthly barometric ranges at the various Signal Service stations are also given in the table of miscellaneous data. The ranges for August closely agree with the normal barometric ranges for this month. They are greatest in the upper Missouri valley and the eastern part of the northern slope; they are least in the southwestern part of the country from the lower Mississippi river to the Pacific coast. The following are some of the extremes:

Greatest.		Least.	
	Inch.		Inch.
Bismarck, Dak.....	0.88	Brownsville, Tex.....	0.22
Deadwood, Dak.....	0.87	San Diego, Cal.....	0.22
Poplar River, Mont.....	0.83	Galveston, Tex.....	0.24
Fort Sully, Dak.....	0.81	Corpus Christi, Tex.....	0.24
Fort Maginnis, Mont.....	0.80	Los Angeles, Cal.....	0.25
Fort Buford, Dak.....	0.79	Fort Apache, Ariz.....	0.25